

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated June 30, 2006, has been received and its contents carefully reviewed.

Claims 1-16 are rejected by the Examiner. Claims 1-16 remain pending in this application.

In the Office Action, claims 1-16 are rejected under 35 U.S.C. § 102(e) as being anticipated by Tokuhiko (US 6,548,831). Applicant respectfully traverses the rejection of the claims and requests reconsideration. Applicant submits that Tokuhiko does not disclose either explicitly or inherently each and every element of the claims.

Claims 1-7 each recites a method of manufacturing an electro line for a semiconductor device having a combination of features including “depositing a molybdenum (Mo) layer on a substrate; depositing a copper layer (Cu) on the Mo layer; forming a photoresist pattern on the Cu layer.” Applicant submits that Tokuhiko does not disclose at least this quoted combination of features recited in claims 1-7.

In rejecting claims 1-7, the Examiner cites FIGs. 1(b)-5(c) and column 4, lines 35-65 of Tokuhiko as disclosing the above quoted feature. Applicant submits that Tokuhiko, including the portions cited by the Examiner, does not disclose at least the structure and order of metal layers and resist recited in claims 1-7. Accordingly, Applicant respectfully submits that Tokuhiko does not anticipate claims 1-7.

Claims 8-16 each recites a method of manufacturing a liquid crystal display device including a Mo/Cu electro line having a combination of features including “forming a gate line and a gate electrode, including: depositing a molybdenum (Mo) layer on a substrate; depositing a copper layer (Cu) on the Mo layer; forming a photoresist pattern on the Cu layer.” In rejecting claims 8-16, the Examiner relies on the same portions of Tokuhiko cited in the rejection to claims 1-7. Applicant submits that Tokuhiko including the portions cited by the Examiner does not disclose at least the structure and order of metal layers and resist recited in claims 8-16. Accordingly, Applicant respectfully submits that Tokuhiko does not anticipate claims 8-16.

The Examiner appears to take Official Notice that "wet etch such as DI water, HNO_3 , aqueous solution containing water with hydrogen peroxide, or the dry etch (plasma/ashing process) using oxygen radicals is well known in the art" and that "Since Mo residue is exposed to wet/dry treatment, MoO_3 is formed. Therefore, removing the Mo residue around the Mo/Cu electro includes oxidizing the Mo residue and removing the Mo residue." If the Examiner is taking Official notice Applicant hereby traverses the Official Notice taken by the Examiner and respectfully requests the Examiner to provide evidence necessary to establish those items the Examiner cites as being well known. Applicant further submits that the fact that an element is well known in the art does not establish that the element is disclosed inherently or explicitly by a reference.

Applicant believes the application is in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. *A duplicate copy of this sheet is enclosed.*

Respectfully submitted,

Dated: October 2, 2006

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